

REMARKS

In the Office Action of January 16, 2004, the Examiner rejected claims 1-3, 6-8, 10-14, 17-19, and 28-30 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,418,492 to Papa et al. ("Papa") in view of U.S. Patent No. 5,809,256 to Najemy ("Najemy") and rejected claims 4-5, 9, 15, 16, 20-27, and 31 under 35 U.S.C. § 103(a) as being unpatentable over Papa and Najemy, and further in view of U.S. Patent No. 6,170,028 to Wallach et al. ("Wallach").

By this Amendment, Applicants have amended claims 1, 8, 11, 16, 17, 20, 21, and 24-26 for clarity. Support for the amendments to claims 1, 11, and 21 can be found at, for example, page 10, lines 10-17 of the originally filed specification. Additionally, claims 6 and 14 were canceled to conform to the amendments to their independent claims. Claims 1-5, 7-13, and 15-31 are presently pending.

A. REJECTION OF CLAIMS 1-3, 6-8, 10-14, 17-19, AND
28-30 UNDER 35 U.S.C. § 103(a)

Claims 1-3, 6-8, 10-14, 17-19, and 28-30 stand rejected under 35 U.S.C. § 103(a) based on Papa and Najemy. Applicants respectfully traverse this rejection.

Claim 1, as amended, recites a device including slots for a plurality of hot-swappable physical interface cards. The device includes, *inter alia*, a plurality of power supply lines for supplying power from the device to the physical interface card through the interface and an on/off power control circuit connected to the plurality of power supply lines to control power supplied to the power supply lines. The device further includes a power monitor circuit connected to each of the plurality of power supply lines, the power monitor circuit determining when the power supplied to each of the power supply lines stabilizes. Additionally, the device includes a controller connected to the on/off power control circuit, the controller, in response to detecting the presence of the physical interface card in the interface, instructing the on/off power

control circuit to turn on the plurality of power supply lines and to ramp the power supplied to each one of the turned on power supply lines. The controller additionally causes the device to restart a power-up procedure implemented by the on/off power control circuit and the power monitor circuit when the power monitor circuit determines that the power supplied to one of the power supply lines has not stabilized after a pre-determined time period.

Applicants submit that Papa fails to disclose or suggest a number of features recited in claim 1, as amended. Papa is directed to a computer system with hot-swap and hot-add capabilities. A hardware perspective of an exemplary hot-swapping device is shown in Fig. 1 of Papa. (Papa, col. 5, lines 55 and 56). According to Papa, once a hot-swap request is generated, a “power-down” command is sent to sequencer 126. (Papa, col. 6, lines 8-9). In response to receiving the “power-down” command, the sequencer 126 controls the quick switch 142, the reset line 146, and the power control 138. (Papa, col. 6, lines 21-24).

In contrast to Papa, claim 1 recites, for example, a device that includes an on/off power control circuit, a power monitor circuit, and a controller, the controller causes the device to restart a power-up procedure implemented by the on/off power control circuit and the power monitor circuit when the power monitor circuit determines that the power supplied to one of the power supply lines has not stabilized after a pre-determined time period. Applicants submit that Papa fails to disclose or suggest a device that includes these features of claim 1.

In rejecting claim 1, the Examiner additionally relies on Najemy. Najemy discloses a soft power switch for hot installation and removal of circuit boards in a computer system. (Najemy, Title).

Applicants have reviewed Najemy, and submit that Najemy fails to disclose or suggest the above-mentioned feature recited in claim 1. That is, Najemy, as with Papa, does not disclose or suggest a controller that causes a device to restart a power-up procedure implemented by the

on/off power control circuit and the power monitor circuit when the power monitor circuit determines that the power supplied to one of the power supply lines has not stabilized after a predetermined time period. Thus, Najemy does not cure the above-mentioned deficiencies of Papa in regard to claim 1.

For at least these reasons, Applicants submit that Papa and Najemy, either alone or in combination, do not disclose or suggest the elements recited in claim 1. Accordingly, the rejection of this claim is improper and should be withdrawn. The rejections of claims 2, 3, 7, 8, 10 and 28 are also improper, at least by virtue of the dependency of these claims from claim 1.

Claim 11 was also rejected by the Examiner under 35 U.S.C. § 103(a) in view of Papa and Najemy. Claim 11, as amended, recites a method of responding to the insertion of an interface card into a device during run-time operation of the device. The method includes, *inter alia*, turning on each of a plurality of power lines in the device that lead to the interface card, each of the plurality of power lines being turned on by ramping a power supply to a predetermined maximum voltage value over a predetermined time period, where larger predetermined maximum voltage values are ramped over a longer predetermined time period; monitoring the turned-on power lines for stability; and restarting the turning on each of the plurality of power lines when the monitoring detects that one of the turned-on power supply lines has not stabilized after a second predetermined time period.

For reasons similar to those given above regarding claim 1, Applicants submit that Papa and Najemy, either alone or in combination, do not disclose or suggest, for example, restarting the turning on of each of the plurality of power lines when the monitoring detects that one of the turned-on power supply lines has not stabilized after a predetermined time period, as recited in claim 11.

Claim 11 additionally recites that each of the plurality of power lines are turned on by ramping a power supply to a predetermined maximum voltage value over a predetermined time period, where larger predetermined maximum voltage values are ramped over a longer predetermined time period. Applicants submit that neither Papa nor Najemy disclose or suggest this feature of the invention. The Examiner, in rejecting claim 11 on pages 2-3 of the Office Action, does not mention this feature of the invention. If the Examiner continues to maintain this rejection, Applicants request that the Examiner specifically address this feature of the invention.

For at least these reasons, Applicants submit that Papa and Najemy, either alone or in combination, do not disclose or suggest the elements recited in claim 11. Accordingly, the rejection of this claim is improper and should be withdrawn. The rejections of claims 12, 13, and 29 are also improper, at least by virtue of the dependency of these claims from claim 11.

Claim 17 was also rejected by the Examiner under 35 U.S.C. § 103(a) in view of Papa and Najemy. Claim 17 recites a method of responding to the removal of an interface card from a physical interface of a device during run-time operation of the device. The method includes a number of features, including detecting, at a controller in the device, a physical removal of the interface card from the physical interface of the device; clearing a data bus connected between the controller and the physical interface; and blocking signals caused by removal of the interface card on control lines between the physical interface and the controller.

Regarding the recited claim language of “clearing a data bus connected between the controller and the physical interface; and blocking signals caused by removal of the interface card on control lines between the physical interface and the controller,” the Examiner cites Papa, at column 7, lines 51-60 and column 5, lines 23-45 as allegedly disclosing these features of claim 17. (Office Action, page 5).

Column 7, lines 51-60 of Papa state:

The sequencer causes the quick switch 144 to disconnect card slot 152 from bus 124 and activates the reset line 148, placing the card slot in reset. The sequencer sends the power-down command to the power control 138. The power control in response removes power from the slot 152 and LED 168. The power control monitors power-down and when power has been removed from the slot sends a "Done" signal to the sequencer.

When the "Done" signal is received by the sequencer, the sequencer either notifies the resident processes 100 and releases the bus or if it has already released the bus, reacquires control of the bus and notifies the resident processes 100 that the power-down is complete, and then re-releases the bus.

This section of Papa discloses placing card slot 152 in "reset," but does not disclose or suggest, as the Examiner contends, clearing a data bus connected between the controller and the physical interface, as recited in claim 17. Although the second paragraph in this section of Papa does mention a "bus," the bus referred to by Papa is system bus 120, which, as shown in Fig. 1 of Papa, is connected between sequencer 128 and resident process 100. Thus, according to Papa, when the "Done" signal is received, the sequencer notifies the resident process over bus 120 that the power-down is complete and then releases control of the bus. This is not equivalent to "clearing a data bus," as recited in claim 17. Moreover, bus 120 of Papa is not connected between the "controller and the physical interface," as is also recited in claim 17.

The Examiner cites column 5, lines 23-45 of Papa for allegedly disclosing the recitations of "blocking signals caused by removal of the interface card on control lines between the physical interface and the controller." Applicants have carefully reviewed this section of Papa, and submit that it in no way discloses or suggests blocking signals caused by the removal of an interface card. If the Examiner persists in this allegation, Applicants request that the Examiner explain his interpretation of this section of Papa in additional detail.

Claim 17 further recites "turning off each of a plurality of power lines in the device that lead to the interface card, each of the plurality of power lines being turned off by ramping down the power supply over a predetermined time period." (emphasis added). Applicants submit that Papa does not disclose or suggest ramping down a power supply, as recited in claim 17. The

Examiner contends that Najemy discloses this feature of claim 17, and points to column 5, line 1 through column 6, line 23 of Najemy. (Office Action, pages 5-6). Applicants disagree with the Examiner's interpretation of Najemy. This section of Najemy, nor any other section of Najemy, discloses or suggests ramping down a power supply over a predetermined time period, as recited in claim 17. If this rejection is maintained, Applicants request that the Examiner specifically point out where in this section of Najemy this features is disclosed.

For at least these reasons, Applicants submit that Papa and Najemy, either alone or in combination, do not disclose or suggest the features recited in claim 17. Accordingly, the rejection of this claim is improper and should be withdrawn. The rejections of claims 18, 19, and 30 are also improper, at least by virtue of the dependency of these claims from claim 17.

B. REJECTION OF CLAIMS 4, 5, 9, 15, 16, 20-27, and 31 UNDER 35 U.S.C. § 103(a)

Claims 4, 5, 9, 15, 16, 20-27, and 31 stand rejected under 35 U.S.C. § 103(a) based on Papa, Najemy, and Wallach . Applicants respectfully traverse this rejection.

Regarding independent claim 21, this claim, as amended, recites a hot-swappable physical interface card designed to be inserted into a network device. The device includes, *inter alia*, a first interface and a second interface. The second interface is configured to connect the physical interface card to the device, the interface including connections for receiving a plurality of power supply lines through which power is received from the device, the device activating the plurality of power supply lines by ramping the power supplied to each one of the power supply lines in response to the device detecting insertion of the physical interface card and the device restarting supplying of power through the power supply lines when the device detects that the power supplied to one of the power supply lines has not stabilized after a pre-determined time period.

Applicants submit that Papa and Najemy fail to disclose or suggest the features of claim 21. In particular, for reasons similar to those given above, Applicants submit that Papa and Najemy, either alone or in combination, do not disclose or suggest a device restarting supplying of power through the power supply lines when the device detects that the power supplied to one of the power supply lines has not stabilized after a pre-determined time period, as is recited in claim 21.

The Examiner relies on Wallach as allegedly disclosing the high speed bus recited in claim 21. Wallach, however, does not cure the deficiencies of Papa and Najemy discussed above. That is, Wallach, either alone or in combination with Papa and Najemy, does not disclose or suggest all the features recited in claim 21, including, for example, a device restarting supplying of power through the power supply lines when the device detects that the power supplied to one of the power supply lines has not stabilized after a pre-determined time period.

For at least these reasons, Applicants submit that Papa, Najemy, and Wallach, either alone or in combination, do not disclose or suggest the features recited in claim 21. Accordingly, the rejection of this claim is improper and should be withdrawn. The rejections of claims 22-27 and 31 are also improper, at least by virtue of the dependency of these claims from claim 21.

Regarding dependent claims 4, 5, 9, 15, and 16, Applicants submit that Wallach does not cure the previously discussed deficiencies of the claims from which these claims depend. Accordingly, Applicants submit that the rejection of these claims is improper and should be withdrawn.

C. CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that the claimed invention is neither anticipated nor rendered obvious in view of the references cited against this

application. Applicants therefore request the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 CFR 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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